

WHAT IS CLAIMED IS:

1. An electrically conductive roll which includes a shaft body and which includes at least a conductive elastic layer formed by extrusion on an outer circumferential surface of the shaft body, wherein the improvement comprises:

the conductive elastic layer being formed of a conductive rubber composition which includes a rubber material, a thermoplastic resin having crosslinkable double bonds and a melting point in a range from 40°C to 100°C, and at least one conductive agent, the thermoplastic resin being included in an amount of 5 to 50 wt.% of a total amount of the rubber material and the thermoplastic resin.

2. An electrically conductive roll according to claim 1, wherein the rubber material is selected from the group consisting of a nitrile rubber (NBR), an epichlorohydrin rubber (ECO), and a mixture thereof.

3. An electrically conductive roll according to claim 1, wherein the thermoplastic resin is included in an amount of 10 to 30 wt.% of the total amount of the rubber material and the thermoplastic resin.

4. An electrically conductive roll according to claim 1, wherein the thermoplastic resin has a melting point in a range from 50°C to 90°C.

5 An electrically conductive roll according to claim 1, wherein the thermoplastic resin is a polyoctenamer having a melting point of about 55°C and a cis/trans ratio of about 2/8.

6. An electrically conductive roll according to claim 1, wherein the at least one conductive agent is selected from the group consisting of carbon blacks, metal powders, conductive metal oxides, and quaternary ammonium salts.

7. An electrically conductive roll according to claim 1, wherein the conductive rubber composition further includes silica.

8. An electrically conductive roll according to claim 7, wherein the silica is included in an amount of 20 to 80 parts by weight per 100 parts by weight of the total amount of the rubber material and the thermoplastic resin.

9. An electrically conductive roll according to claim 1, wherein the conductive elastic layer has a volume resistivity in a range from $10^4 \Omega \cdot \text{cm}$ to $10^{10} \Omega \cdot \text{cm}$.

10. An electrically conductive roll according to claim 1, wherein the conductive elastic layer has a thickness in a range from 0.3 mm to 3 mm.

11. An electrically conductive roll according to claim 1, wherein the conductive elastic layer has Asker C hardness in a range from 40 to 80.